

In the Claims:

1. **(Currently Amended)** A method of identifying problems in applications, comprising:

monitoring at a kernel level system resource usage of one or more running processes belonging to one or more user applications without modifying run-time environments of the running one or more user applications; and

from the monitored system usage, identifying to a user from the monitored system usage, an a first user application whose system usage pattern satisfies a predetermined criteria associated with one or more problems.

2. **(Currently Amended)** The method of claim 1, wherein the system resource usage comprises a number of the one or more processes that each of the one or more running user applications have spawned and the predetermined criteria comprises a predetermined limit on the number of processes that each of the one or more user applications may spawn.

3. **(Currently Amended)** The method of claim 1, wherein monitoring at a kernel level system resource usage of one or more running processes comprises monitoring a parent-child relationship between each of the one or more processes and each of the one or more user applications; and

identifying to a user a first user application whose system usage pattern satisfies a predetermined criteria associated with one or more problems comprises identifying a first user application that has orphaned one of the one or more running processes. the system resource usage comprises central processing unit usage of the one or more running applications.

4. **(Currently Amended)** The method of claim 1, wherein the system resource usage comprises memory usage of the one or more running processes, applications.

5. **(Currently Amended)** The method of claim 1, wherein the one or more user applications comprise one or more applications initiated at the user level and the one or more

running processes comprise one or more processes initiated at the kernel level by the one or more user applications.

~~further comprising: producing an output comprising at least the system resource usage associated with each of the one or more running applications.~~

6. **(Currently Amended)** The method of claim 1 ~~5~~ wherein the system resource usage of the one or more running processes is monitored over a plurality of consecutive discrete time periods.

~~the identifying comprises:~~

~~identifying from the output an application whose system resource usage pattern satisfies a predetermined criteria associated with one or more problems.~~

7. **(Currently Amended)** The method of claim 6, wherein:
the system resource usage comprises an amount of memory usage for each of the one or more processes; and

the predetermined criteria is a limit on a number of memory increases allowed during the plurality of time periods. ~~an increase in amount of the system resource usage from a first period to a second period.~~

8. **(Currently Amended)** The method of claim 6, wherein:
the system resource usage comprises an amount of memory usage for each of the one or more processes; and

the predetermined criteria is a generally continuous increase in the amount of memory usage during the plurality of time periods.

~~wherein the predetermined criteria is a continuous increase in amount of the system resource usage from a first period to a second period.~~

9. **(Currently Amended)** The method of claim 6 ~~4~~, wherein:
the system resource usage comprises a number of the one or more processes that each of the one or more user applications have spawned; and

the predetermined criteria is a generally continuous increase in the number of child processes spawned during the plurality of time periods.

~~the monitoring comprises:
using an available kernel level tool to obtain data associated with the system resource
usage.~~

10. (Currently Amended) The method of claim 1, wherein identifying to a user a first user application whose system usage pattern satisfies a predetermined criteria associated with one or more problems comprises saving an identifier of the first application in a reference file, and further comprising saving identifiers of any other of the one or more user applications whose system usage pattern satisfies a predetermined criteria associated with one or more problems in the reference file.

~~wherein the monitoring comprises:
using an available kernel level tool to obtain data that includes the system resource
usage; and
filtering the data to obtain a selected system resource usage.~~

11. (Currently Amended) The method of claim 10, wherein a computer automatically monitors the kernel level system resource usage of one or more running processes and identifies the first user application.

~~identifying comprises at least:
using the filtered data to identify an application whose system resource usage pattern
satisfies a predetermined criteria associated with one or more problems.~~

12. (Currently Amended) A method of identifying memory problems in applications, comprising:

monitoring at a kernel level memory usage of a one or more running processes belonging to a user application ~~applications~~ without modifying run-time environment ~~environments~~ of the user application ~~running applications~~; and

producing an output comprising at least the memory usage; and

from the monitored memory usage, identifying to a user ~~from the monitored memory usage, an a first user~~ application whose ~~system~~ memory usage pattern satisfies a predetermined criteria associated with one or more problems.

13. (Currently Amended) The method of claim 12, wherein:

the memory usage of the one or more running processes is monitored over a plurality of consecutive discrete time periods, and

the predetermined criteria is a limit on a number of memory increases allowed during the plurality of time periods.

~~further comprising:~~

~~analyzing the output to identify a memory problem.~~

14. (Currently Amended) A method of identifying memory problems in applications, comprising:

monitoring at a kernel level memory usage of one or more running processes belonging to one or more user applications without modifying run-time environments of the ~~running~~ one or more user applications;

respectively linking each of the one or more running processes to each of the one or more user applications;

producing an output comprising at least the memory usage of one or more ~~running~~ user applications; and

~~identifying~~ from the output, identifying an a first user application whose memory usage pattern satisfies a predetermined criteria associated with one or more memory problems.

15. (Currently Amended) A method of identifying memory problems in applications, comprising:

monitoring at a kernel level memory usage of one or more running processes belonging to one or more running user applications without modifying run-time environments of the running user applications; and

from the monitored memory usage, identifying ~~from the monitored memory usage~~, ~~an~~ a first running user application whose memory usage pattern satisfies a predetermined criteria associated with one or more memory problems.

16. (Original) The method of claim 15, wherein the monitored memory usage comprises at least a stack memory, data memory, and text memory.

17. (Currently Amended) A method of identifying memory problems in applications, comprising:

collecting system resource usage at a kernel level of one or more running processes belonging to one or more user applications without modifying run-time environments of the one or more user running applications; and

from the collected system resource usage, identifying ~~from the collected system resource usage~~, an a first user application whose system resource usage pattern satisfies a predetermined criteria associated with one or more system resource usage problems.

18. (Currently Amended) A system for identifying problems in applications, comprising:

a data collection module operable to retrieve information about a running user applications ~~application~~ at a kernel level; and

a data analysis module operable to determine from the retrieved information an abnormal system usage pattern in the information; and identify from the abnormal system usage pattern, ~~an~~ a first user application whose system usage pattern satisfies a predetermined criteria associated with one or more problems.

19. (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps of identifying problems in applications, comprising:

monitoring at a kernel level system resource usage of one or more running processes belonging to one or more user applications without modifying run-time environments of the running one or more user applications; and

from the monitored system usage, identifying to a user from the monitored system usage, an a first user application whose system usage pattern satisfies a predetermined criteria associated with one or more problems.

20. (Currently Amended) The program storage device of claim 19, wherein the system resource usage comprises a parent-child relationship between each of the one or more processes and each of the one or more user applications; and

identifying to a user a first user application whose system usage pattern satisfies a predetermined criteria associated with one or more problems comprises identifying a first user application that has orphaned a process.

the system resource usage is memory usage, CPU usage, or one or more spawned processes, or combinations thereof.